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THE
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1874.

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BY LYSANDER S. ^{ed}RICHARDS.

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THE BEGINNING AND THE END OF MAN.



THE origin of man and his destiny is constantly agitating the brain of mortals, and to many this enquiry is simply nonsense. The child cares nothing for his great grandfather's ancestry, and whether the race dates back fifty or two thousand years it matters not to him, since his amusements are not disturbed. The cow eats grass and chews her cud, unmindful of the past and indifferent about the future. Plenty to eat and drink, and plenty of sleep, is the sum of its requirements, and the apparent completion of her happiness. Montaigne says of Pyrrho, the philosopher, that being one day in a boat, in a very great tempest, he showed to those he saw the most affrighted about him and encouraged them by the example of a hog that was there, nothing at all concerned at the storm. Shall we, then, dare to say that this advantage of reason, of which we so much boast, and upon the account of which we think ourselves masters and emperors over all other creatures, was given us for a torment?

To what end serves the knowledge of things if it renders us more unmanly; if with it we lose the tranquility and repose we should enjoy without it, and if it puts us into a worse condition than Pyrrho's hog? And yet, with all the contentment and undisturbed happiness of this dirty creature, who of us would care to be a hog or a cow, instead of men and women endowed with reason

and a full-grown intellect? If "ignorance is bliss," and it is "folly to be wise," mind is a burden and reason a false creation; but as God, or the universe, makes no mistakes, the child is ever puzzling the parent with questions, and is satisfied simply until a new one suggests itself. Nor do these inquiries cease at manhood or womanhood. The happiness of the cow or pig must be very moderate, confined to one faculty, while with man, just in proportion to the development of his intellect his faculties increase, his happiness becomes more intense and his miseries in the same ratio. - "The kingdom of heaven is within," and it is for us alone to make our own heaven or hell. When the inquiries of man cease, his mind becomes dwarfed, and his existence here valueless. Our inquiries must be for something more than that which we already know, if the answer lies beyond actual demonstration or proof, reason from analogy.

During the early pre-historic age of man it was sufficient for him to know his birthplace, and that he was born of woman; farther than that the past excited no curiosity or inquiry. Time rolled on, and after the lapse of ages his intellect expands, develops; he studies cause and effect, and naturally asks himself, "Whither am I going, and from whence did I or my ancestors come?" The problem he fails to solve. Moses is born a genius; he gains the ears of the people, and they accept him as their oracle. He invents the story of the creation and places Adam at the head of the race. This answered the question of their origin, and their minds were not further troubled. This story was recorded and became a part of our history. Ages passed, and Moses's record was unquestioned. At last some daring fellow inquires, "If Adam and Eve were the first, where did the woman in the land of Nod come from, whom Cain, their son, sought, and with whom he became joined in matrimony?" This was unanswerable, like the story of the negro who

asked his companion, "How Adam was made, if he was the first man?" "Why, don't you know?" replied his companion; "God made him out of clay. He took a bit and made his trunk, then a head, then legs, arms, etc., and stuck them together and put them up against a fence to dry." "Ah!" rejoins the negro, "who made de fence?" For this unexpected question the companion had made no more provision than did Moses for the question of the ancestry of Cain's wife.

The biblical story, then, of the beginning or origin of man is believed by all liberal thinkers to have originated in the brain of Moses, serving for ages to satisfy the masses upon the question of their origin. But as civilization advanced, and the thinker had outgrown the story, he looks about, and through the searching, investigating mind of the geologist and anthropologist finds that six thousand years is but a drop in the bucket compared to the actual existence of man upon this planet. If the record or story of Moses is the oldest written history extant, our progenitors in the pre-historic age left a record more durable and truthful of their existence carved upon the bones of animals known to have flourished in that age. Enter the forest; we pass a bird's nest forsaken by its inhabitant; no bird is seen, but that the nest was the work of the feathered tribe there is no question. We stumble over an ant's nest, run our toes into a squirrel-hole, or face a hornet's nest all forsaken, not an occupant seen; yet these furnish sufficient evidence of their former presence, for by their works we know them.

Prof. Niles tells the story of a couple of adventurers attempting some years ago the ascent of one of the mountains of Sierra Nevada. They were cautioned by the natives not to make the attempt, as no man had ever succeeded in reaching the summit. This encouraged them, and taking a United States flag, up they journeyed, and through their daring and persisting efforts gained the

summit; the flag unfurled they waved it to the breeze; and while congratulating themselves as the first men who reached this mountain-top, one of them perchance, looked behind, and, behold! to their great surprise there lay upon the rock a New Testament, a pack of cards and a rum-bottle! Their glory was lost, for these furnished unquestionable evidence of the presence of man here before. Visit other grounds, make excavations, observe; a piece of quartz attracts your notice, it possesses shape, and looks like an instrument shaped by man — it is an arrow-head; dig deeper and you find another arrow-head made of flint, and by its side a stone hatchet; these discoveries furnish sufficient evidence of the existence of man at the time of these earth deposits containing said implements, and if the geologist, through his investigation is able to inform us the comparative age of this strata containing these deposits, the antiquity of man in that region can, in a measure, be ascertained. That these implements are identical with man there is not much question; for though a monkey exhibits a fair amount of reason when, to crack a nut, he takes up into a tree a stone and lets it fall thereon, and some birds the same when, to crack the shell of a shell-fish, carry it high up in the air, and lets it fall upon the ground and feeds upon the meat; yet no implements are shaped, and none known to be made by any animal aside from man.

In the Valley of the Somme there has been discovered, in the excavations, fossils of the mammoth and woolly rhinoceros, both extinct, the elephant, hyena, tiger, hippopotamus and the cave-bear. Most of them long ago became extinct in Europe. These animals must have roamed over France, nothing less, says Sir Charles Lyell, than 100,000 years ago. If we can discover associated with these fossils found in the deep excavations the remains of the works of man, we shall establish the fact that his existence on this planet must have extended

back to that period at least. His remains or bones we fail to find associated with said fossils. In fact it is very rare that they are found anywhere fossilized; instead, however, of finding his remains, his works indicating his presence have been discovered. Arrow-heads, knives made of flint, other stone implements, spear-heads, hatchets, poniards, &c., &c., were found associated with the bones of said extinct animals. Not only were these implements discovered, but also with them bones, with finely executed figures of animals flourishing at the time engraved thereon. At this period man probably dwelt in caves and lived by hunting, like the wild Indians of to-day. He brought the game into his cave, devoured it, and possessing in that early day the art inherent in man, displayed it at his leisure in cutting upon the bones the figures above described.

We have found that the antiquity of man dates back at least 100,000 years; we look still further and find that at or near Vezeres, stone implements have been found, of various shapes, clearly indicating the presence of man. The geological strata in which these implements were imbedded is known as the Pliocene strata—rocks that are estimated by most geologists to have been deposited at least a million of years ago. 100,000 years is, then, in reality but one-tenth of the probable existence of man upon our planet. But suppose our ancestry dates back to the Pliocene epoch, a million of years, is that the beginning of man? Science has been able to trace him no further from the work he has left, and yet, noting the very gradual progress of the race since, it is reasonable to suppose that a great many years—aye, ages—must have elapsed previous to the epoch mentioned, ere it could have arrived at that stage in art to enable the race to manufacture implements of stone with sufficient distinctness to indicate to their posterity, a million of years distant, their presence upon the planet.

The race, in fact, must have dated as far behind the stone-implement age as it now dates from it—for the progress from the very low man, or the animal plane, to the age of manufacturing and using instruments of stone, must have required as much time to develop it as, since the stone age, to have arrived to our present attainments in the arts and sciences. If, then, we traced the existence of man to the Pliocene epoch, where the stone implements were found, and which is estimated by most geologists at nothing less than a million of years, added to which the number of years prior to said stone age, which we estimated equal to the elapse of time since, makes some two millions of years—the shortest time, from present discoveries, that man could have existed upon the globe. Suppose, then, that two million of years approximates towards the nominal appearance of man as a distinct variety in the animal kingdom, did he appear in the form of only one man and one woman, and from which first pair our entire race originated or multiplied? or rather did man at this time spring from the earth a distinct species? If he did not proceed from the entire animal kingdom, from the lowest form, the proto-zean, through the highest, the vertebrate, mamalia, the earth must have sprouted him, for the old obsolete notion, or rather superstition, that God scooped up a bit of dirt, shaped it into the form of man, infused into it a spirit, or in some fashion created him and set him in motion, as does the engineer his machine or engine, after its construction, is not accepted by any rational thinker.

What are the chances of his proceeding or springing from the soil in the present form, or that of the primeval or pre-historic man? And through what other source could he have possibly proceeded unless through the animal kingdom as before described? If man was always a distinct species, proceeding from nothing below him, could his body have been created, started, or formed, from

anything beyond or apart from our planet? Every moving material form upon the earth is a part and parcel of it; from it all matter, whether in the form of man or a cabbage, originally proceeded; and as it is a self-evident fact that God cannot create something out of nothing, man, if he did not develop from any species below him, but was created a distinct species, his body God must have formed from the earth or soil. Its analysis proves that it originally proceeded from it — for when his body decays there is no chemist on the globe who can detect or separate the constituents of the body from the soil; and yet the instantaneous or immediate creation of man's form from the ground, the most complex being that exists, is monstrously absurd, for what shall be his size? Was he placed upon the earth, or did he sprout up, a full-grown man, say one hundred and fifty to two hundred pounds? And the stature of the animal kingdom to-day, including man, is certainly no larger than ages ago, but probably smaller. Is it possible for a being of any description of above dimensions to spring into immediate existence to-day? And if not to-day, why a thousand or a million of years ago? Is it possible that man was placed, or was sprouted from the earth a babe of the smallest dimensions? That seems more improbable, for what being throughout the animal kingdom is more helpless than the infant? A year before it can even walk! and, alas! how many years before it could possibly obtain its living!

Can we imagine an instance to-day of a new-born infant robbed of its parents and surrounded by no human beings thriving and developing into manhood? And, if impossible to-day, why more possible a thousand, or a million, years in the past? The same laws regulating the birth and existence of beings upon the earth were in operation then as now. God's, or nature's laws, are immutable, unchangeable. To be sure it is said of Romu-

lus and Remus, in a legend in ancient times, that they were nursed and nurtured by a wolf; but every rational mind knows it is fiction, for nature has not endowed wild beasts with such unnatural faculties; every species looks to its own kind. If it cannot be demonstrated through nature's laws that man's body is a distinct creation, what of the species below him? Is it any more probable that the ape was created separately? or the dog or cat? What are the chances of a full-grown ape, dog, or cat, springing into immediate existence? Does nature, through which God only works, suggest even a shadow of such a probability? And is it any more probable that their young, if not gradually developed from the species below them, could possibly live and thrive without that fostering care which a parent alone can give? But as we descend in the scale of animal life, passing through the birds, reptiles, fishes, articulates, (which includes insects, spiders, worms, &c.,) molluscs, or shell animals, and radiates, such as polypes, or coral-builders, jelly-fishes, star-fishes, &c., &c., to some of the lowest forms of animal life such as the sponges, &c., the nearer the approach to these lowest forms the more spontaneous their reproduction and the less dependent are they upon the parent for support.

If a dog has always been a dog; a cat, a cat; an ape, an ape; and a man, a man—each a distinct creation—it is implied that each was created from something. Where were they created? In the skies? Where in that lofty region was the material obtained to form a body of any shape? If not created above the earth, and if created at all a separate species, it must have been formed upon and from the earth; and whether its form was the smallest or the youngest of its kind, or whether it appeared a full-grown dog, cat, ape or man, it matters not, for nature possesses no laws whereby it can produce any form of life without a parent. Even God himself, who is in all,

pervading all space, as is nature, cannot alter himself; and consequently no law to suit any special emergency, whether one year or a million in the past, can be altered or amended. For if God is in all, nothing can exist outside of Him, and hence every law and thing is a part and parcel of deity, and he can no more alter or amend a law to remedy any special defect (could such an impossibility exist) than a man (had he the power) to change a defective arm for another without going outside of himself; there is no part of him that could be spared, and no law regulating his development or being could be suspended a moment to substitute or remedy in the least the defective arm. God's laws are natural and immutable; no law was ever changed nor ever can be, whereby a quart of water can be put into a pint-bottle. Statements come to us from ancient books of change in laws to display a supernatural power, but sufficient proof of the truth of such statements is not given. God is as powerless to create or change a law, which in fact controls him, or the universe, from which he cannot be separated, as is a leopard to change his spots; and it is only ignorance of the inability of God's power to change himself, of which his laws are part and parcel, that gives the absurdity a moment's credence. As the intelligence and independence of the age advances, faith is established through the most searching investigation of the laws that develop and govern every atom in the universe; faith in their immutability, which only allows change in forms of matter; but change in the laws that control them, either in the most remote past of the dim future, never. If, then, we have begun to understand the immutability of every law, the veriest dunce cannot fail to perceive that the law which would not allow an unnatural production or creation to-day could not have allowed it thousands or millions of years in the past—or, in other words, a law that cannot be altered or amended to favor a certain produc-

tion or creation to-day could not have been changed thousands or millions of years ago.

No one can reasonably pretend for a moment that a law exists to-day whereby man can be produced or created from the earth a full-grown man from one hundred to a hundred and fifty pounds, or in the form of a helpless infant with no possible means of sustaining life for years after its birth. If there was a "first man," its parent (and no animal, however low, or vegetable, can appear upon our planet without proceeding from a parent or parent stock) must have been the highest order of animal life then existing; not necessarily an ape or a monkey, but possibly and very probably a higher developed species, now extinct, exterminated by the pre-historic man, the latter far below the most inferior savage now in existence; hence the parent of the "first man," the highest order of life then existing, was but a step below, the development being hardly perceptible; like the child of to-day, through the combined organism of its father and mother it inherits at times superior qualities, which places it ahead of the parent stock, and, transmitting them to its progeny, its descendants obtain the start in the race of intellectual or superior life.

The rapid thinker will, however, at first thought, ask, "if the laws are immutable, unchangeable, why does not man proceed from the higher orders of animal life to-day?" And this, in fact, is the greatest obstacle in the popular investigation of the progressive development or evolution of life. If sufficient evidence cannot be produced to show that the law of progressive development has not changed, but that the link between man and the next order of animal life is not at present especially necessary to the further progress of life, since that man has reached his present advance or growth—if, I repeat, this cannot be satisfactorily presented, the doctrine must fall. The gap between man and the next

order of animal life at present — say the ape — is very wide; but the gap will continue to widen, so that ages in the future the gap in the present era, if the facts could then be known, will seem very narrow compared to the very wide gap which must necessarily exist in that distant epoch; and why?

Glance at the animal life of America. Not many years since (but a few hundred), the wild beasts roamed from the cold regions to the equator; America teemed with them; where are they to-day? The march of civilization has driven them back; one species after another of the highest order of beasts have been exterminated, so that to-day, where man or civilization extends, nothing remains of the wild beasts to indicate the homes they once enjoyed but their bones, and these, through the aptness of the Yankee, are rapidly being gathered and converted into manufacturing and agricultural purposes — as, for instance, in the northern portion of America, where immense quantities of the bones of the elephant are dug up, also remains of other animals in the bone-beds of Carolina, all being utilized and their original form destroyed, so that in the future not even the bones of beasts will remain to mark the pre-existence of the higher orders of animal life, except here-and-there a relic stored away in a museum; the gap widens, other “links-missing.” What is true of the extermination of wild beasts in America, as rapidly as man advances, is becoming true in other and all parts of the globe.

What of the lower races of men? is not the gap widening constantly here? The living link between civilization and the pre-historic man is fast becoming “the missing link” by the extermination or extinction of the aboriginals. Take North America, the native home of the poor Indian; from the lakes to the gulf, from the Atlantic to the Pacific, his reservations extended; but, alas! the European advances; he plants himself in their homes;

the Indian is doomed; the work of extermination begins; a few only remain to remind us of the original extensive tribes; back, back they have been driven to the furthest extent of our realm, and the only home that now awaits this small remnant of the aboriginies of America is the watery deep of the Pacific. The Australian savage, the native of Australia, is being also rapidly exterminated; but few remain to indicate the existence of this very low race of men. They are the lowest living on the face of the earth. They can scarcely count four, and after their entire extermination, future ages will scarce be able to conceive of the existence of these low savages, and unless their bones are carefully preserved and a record of their race kept this link will be missing; the gap between the lowest man and the next highest order of animals will be wider. The natives of New Zealand, the cannibals, are also being rapidly exterminated. A few years more and nothing but their bones or records (if preserved will indicate the former existence of these wild savages upon our planet. If all is lost, another link is missing; and in early pre-historic times there were no printed records, nor any bones preserved, for petrified or fossilized human bones, as before mentioned, are extremely rare. Hence the highest orders of beasts being rapidly exterminated in all countries by the advancing tide of civilization, and the equally rapid extermination of the lowest races of men on the globe, will, in the course of 100,000 years distant, vastly widen the gap, and the "missing link" in that age will prove a far greater puzzle.

We have found that the link connecting the lowest man and the next order of animals does not exist, and that its existence is not at present a necessity, since man has reached his present development, for the gap, we learned, has widened and is continuing to widen, so that in the distant future the hour must come when every wild beast upon the face of the globe will be exterminated, and

with equal certainty every savage tribe and all the lower orders or races of men must pass away and become extinct. The gap will then become so wide between the *bimana* and *quadruman*a that unless their remains and records are preserved it will be impossible to form a conception of the pre-existence of these extinct forms. Hence it is fair to presume that further advanced types of *quadruman*a, that were nearer allied to man than now exists, have become extinct and buried in the vast accumulations of ages.

Paleontology is in its infancy, for the times are comparatively recent since the discovery and classification of fossil remains. Is it not equally probable that types or races of men much lower than any of which we have record and more closely allied to the *quadruman*a and *quadrupeds* may have existed in the *Miocene*, and possibly in the *Eocene*, age? No rational thinker believes that all forms of animal life were created at the same time; for every geologist is aware that many forms became extinct ages before the appearance of mammals upon the earth; as, for instance, nine species of *Trilobites* became extinct at the close of the *Primordial*, or the earliest geological age; eight species at the close of the *Lower Silurian*; five at the close of the *Upper Silurian*; and all became extinct before the close of the *Carboniferous*, which was many million of years prior to the age of mammals, which includes all animals that suckle their young. What is true of the *Trilobites* is true of many genera, and thousands of species appearing in one age and becoming extinct before the close of the following age. If creation is possible, why are not new species created to-day?

The perpetuation of the species is in progress; but entirely new forms, newly created, and not proceeding from lower and older forms, are wholly improbable if not impossible, for if thus created what are they created from?

Should it be announced that some new genera or species had developed in the air, or sprouted from the earth, it would be pronounced a joke, and the hesitancy in visiting the curiosity would be as great as is exhibited on the first of April when a white elephant is announced to appear upon the Boston Common. Spontaneous generation, I know, is regarded by some as probable, but the fallacy of this notion is nowhere more apparent than during the inspection of canned fruit. The theorist takes a liquid or solid, submits it to an intense heat, double or treble boiling heat, so high, in fact, that the existence of life is impossible in the mass (not making it certain, however, that infinitesimal living forms outside may not in some possible way drift in when cool and develop) while the canner of fruit brings the mass simply to a boiling point hermetically seals the vessel containing it, places it on the shelf, where, as in many cases, it remains for several years, and when opened no signs of animal life is manifest; hence the theory of spontaneous generation is not accepted.

Evolution, or the law of progressive development, works slow; time, ages, are its demands, while a thing created, new, independent of any other form, must of necessity be rapidly organized. To develop, then, a new variety by the law of progression takes time. What is two, four or six thousand years compared to a geological age, the years comprising which are estimated by millions? Pass down the line of ages and mark the gradual development from the lowest form of life, in the earliest geological age to the present, culminating in man, and then let the question be put, If man is a separate creation, and not a gradual development from the lower to the higher, why was he created in the present and latest age? why did he not appear in the earliest epochs—the carboniferous, for example, the age of plants? The answer is simply that he had not developed. Fishes at this

age were as high in the scale of animal life as the earth was able to develop ; it required several ages, or many millions of years more, through the many steps of progressive development, ere so complex and perfect a being as man could be developed.

Commencing with the Root-footed animals, among the earliest, we find life in the most simple form — a mass of flesh heaped together, assuming any shape it chooses, from a rounded mass to an oblong, then elongating itself into an eel-like figure, with no fixed stomach, but located in any part of the body that might temporarily suit the creature ; with mouths as changeable, and also its waste passage. An animal with less system in its organism cannot be easily imagined. Yet there is the Protozoa, the sponge, which is simply a pulpy, living animal mass with no organism whatever. Pass to the Polype, the coral-builder, and we find its organism a little more systematized ; its stomach is a little small inner sac suspended loosely from the mouth, which is fixed around the latter ; there are a large number of tentacles, or feelers, which the creature throws out in search of food. They reproduce by eggs which are dropped in the sea, and finally lodge upon some rock, where they hatch, develop and become fixed thereon. They also reproduce by branching out, the same as the limb of a tree branches from the trunk. Pass on to the Echinoderms, and the sea Urchins are farther developed by the addition of a heart to a stomach and a mouth. The Mollusk, a soft-bodied creature, including all shelled animals, flourished largely in the Silurian age, called by some the age of Mollusks.

In this very early epoch the Brachiopod was quite predominant, its development a little in advance of the animals heretofore described ; it is not fixed to a rock, but is free to move at its pleasure, and is assisted largely by two fleshy arms which it can protrude or withdraw at its will. Mollusks generally possess none of the organs of sense

except eyes, and some species are without them. Up to this time insects or fishes were not developed. Crustaceans and Annelids, or worms, began to appear, and the organism of the latter, higher and more complex. The body is divided into several segments, which enables it to twist about, and is covered to some extent with bristle-like appendages which assist its powers of locomotion. They possess a system of veins and arteries, the blood of which is red. Each worm is both male and female, or bisexual.

At the commencement of the next age, the Devonian, insects appeared, presenting a higher degree of development; their bodies being divided into three distinct parts, the head, the thorax, and abdomen, and their powers of locomotion greatly promoted by the possession of six legs and two or four wings. During this age, fishes made their first appearance, and hence this epoch is often called the Age of Fishes. Up to this period no vertebrates (animals possessing a backbone) were in existence, and when fishes appeared the development of a backbone was a remarked feature in the progress of the kingdom, for all animal life is divided into two classes vertebrates and invertebrates. The development from an invertebrate into a vertebrate was gradual, for there existed a species called the "Ambeogisis," which possessed evidences in its organism of passing through the transition state. The earliest fishes, it is thought, belonged to the invertebrates, and not for many years was there developed in them a backbone. The gills of these creatures in the Devonian period were undeveloped; there were holes at the sides with no covering.

In passing upward through the line of ages the wonderful development in the fish species is marked, and as we pass the Carboniferous age some of these creatures begin to assume a new form, the pectoral, or small cartilaginous arms, terminating into a hand, with slender fin-

gers (which is a gradual but great advance from lower animal forms), developed at the close of the Carboniferous, or at the opening of the Secondary age, into stouter and more bony arms, while the limbs corresponding to the ventral fins, terminating with a foot, with slender toes, developed equally in strength and size; so that the fish became possessed of large, stout, bony legs and feet, with its caudal appendage strengthened and passing into the reptilian form. This age is called by modern geologists the Age of Reptiles, reptiles being the predominant animal in that epoch. The connecting link is nowhere better shown than in the *Ichthyosaurus*, a Greek term meaning fish and reptile, or lizard. This is an extinct animal, probably developed in the Carboniferous age, and becoming abundant in the Secondary. Its head was of a huge reptile, large, elongated mouth and teeth, but possessing fins to paddle its way along. Its vertebrae deeply concave, similar to the fishes.

Another link connecting the reptile with the bird is found in the fossil remains of a *Pterodactyl*, a flying reptile existing in the Secondary age. Its head is the form of a reptile. Its legs support a membraneous wing to enable it to fly. Although a reptile in structure, possessing no feathers, yet, like birds, their bones were hollow and were adapted for the air, or flying, by the possession of enormous wings. In the quarries of Solenhofen there has been found fossil remains of birds that possessed some characteristics of a reptile; but, while some parts of its organism was reptilian, it was, nevertheless, a bird possessing an expanse of wing and feathered. The connecting link between the bird and mammals, or semi-mammals is found in the fossil remains of a bird-like kangaroo, its head the structure of a bird, while its posterior portion is constructed like a kangaroo. The connecting link between mammals and man has been enlarged upon quite sufficiently heretofore.

In the Tertiary (the most recent geological age, following the Secondary above mentioned and called by many the Age of Mammals) roamed the *hairy* elephant and woolly rhinoceros. The temperature of that period was undoubtedly much colder than the present age, consequently those animals required a hairy and woolly covering to protect their mammoth bodies from the extreme cold; but, as the temperature gradually increased to its present average height, these coverings were useless and dispensed with, as the naked presence of these beasts to-day testify. Take, for instance, the pig, which possesses a structure akin to the alligator. In developing to the higher the latter generally lost its stout and bony caudal appendage, having, in roaming the land, no further use for it, and also its huge mouth and teeth, which suited its half-aquatic habits. So with the ape family, the general structure of which so nearly corresponds to man, requires long arms and hands, and also feet, hand-shaped, to enable it more easily to climb trees for self-protection in the forests, gather nuts and fruits, which form their chief subsistence; but as man developed, defended himself and procured his living by his wits, hand-like feet and long arms for climbing and locomotion "on all fours" were useless, and in assuming the upright position his feet flattened out, the disuse of the arms and hands in walking upon them, caused both hand and arm to shorten or become smaller, the same as the blacksmith can by use or disuse cause both to strengthen or weaken. So with his canine teeth; the earliest pre-historic man, who lived most entirely by hunting and fishing, undoubtedly possessed long canine teeth like the ape, to enable him to tear flesh and tough substances more easily; but as man developed into a more civilized being he tilled the soil and subsisted more upon vegetable food, and the disuse of the canine teeth for tearing flesh shortened them, so that to-day they are found comparatively small.

We have thus traced man from the lowest form of animal life; from the earliest geological age to the present; and the gradual development from the lower to the higher, hastily, yet carefully sketched; and yet do we find the beginning of man's not yet. From what did the lowest animal develop? Whence its origin? Is it possible that the animal kingdom sprang originally from plant life? Huxley tells us that yeast is made up of a mass of minute living plants called the yeast-plant, or, scientifically termed, *Torula*, belonging to the fungi group. Fabroni discovered that this plant was the shape of a bag, that the outer portion contained the properties of wood, while the inner portion of the bag contained the properties of animals, among them "Protein," the foundation of every animal organism; he consequently called it a vegeto-animal substance. It was also discovered that this inner matter possessed the power of contraction, similar to that of the substance of animals. This substance, which is found in the interior of vegetable cells as well as in all animal substances, was named by Hugo Von Mohl, an eminent German botanist, "Protoplasm;" and to-day the fact is largely conceded that the animal kingdom — which of course includes man — proceeded from this shapeless vegeto-animal mass. This, then, we will call the bridge over which the vegetable kingdom passed or developed into the animal.

Corals were so akin to plant life that many years elapsed ere the discovery was made that these apparently branching trees, decked with beauteous colors and fixed to the ocean's bed, was the product of animal life, and the Polype producing them had some peculiarities of a plant. They propagate largely by branching out from the side of the parent stock, the same as a limb or branch from the trunk of a tree, so that a community of them have the appearance of a tree with branches thereon. They are usually fixed to a support, the same as a plant, but they

are animals containing simply an inner sac for the stomach and mouth; around the latter are arranged rows of tentacles, like the petals of an aster — says Dana — about its central disk. Turn these animals inside out, which has been performed, and they live and thrive; cut them to pieces and they propagate.

The Crinoids, an extinct animal flourishing in the Paleozoic and Mesozoic time, was a creature possessing a very close resemblance to a plant. Its trunk, tree form, was firmly attached to a rock, and its long sweeping tentacles presented the appearance of thickly-waving branches of a plant. The sponges, until a comparatively recent time, were considered of vegetable origin and possessing all the appearance of plant life; but modern scientific researches have revealed the fact that they belong to a group of the lowest form of animals, called Protozoans; thus, these vegeto-animals, resembling species enumerated above, may be justly termed the apparent connecting links between the vegetable and animal world.

Having found it possible that man not only proceeded from the very lowest forms of animal life, but that, in all his grandeur, he is simply a direct descendant of the vegetable kingdom, with the tree, the shrub, the Cryptogam, for his great, great and countless great-grandfathers, do we find his origin? Not yet.

The development of man from plants, through the lowest forms of animal life has been gradually, yet hastily traced; but his origin beyond which no trace of development is possible, has not yet been found, for plants cannot be a special creation any more than man can be specially created. All plants germinate; that is, the seed from which they spring contains the plant, root, trunk, branches, all in a miniature form, and when sufficient heat and oxygen reaches the buried seed the miniature plant unfolds itself, expands, and grows into a shrub or tree, according to the strength or force of the species to which the plant be-

longs. Plants owe their existence to the ovary and ovule, and unless they are impregnated through the pistils by the pollen from the stamens of the male or staminate plant, whether upon or apart from the same stock, they cannot exist (Cryptogams excepted). The analysis of plants denotes their earth origin. Pass down the line of ages to the early development of our planet, when the globe was entirely covered with water, and plants with no possible chance of existence — for soil was not then formed, and the ocean's bed was one vast solid. At last the spell is broken; an elevation through eruption, or a more gradual force, sends a portion of the rocky bed above the universal ocean; bed after bed, scattered through the mass, is elevated; and with rocks exposed to wind and rain, erosion takes place, the rocks disintegrate, and soil, or pulverized rock, the consequence.

Now, to say that rocks or soil contains life is radical, but, nevertheless, I launch the assertion. We say a thing has life that possesses the power to grow and develop. Rocks do not apparently possess that power and yet when we study their structure carefully and thoughtfully we find that changes in their forms have been constantly occurring. Look at the pure crystal; has that not passed through a process of development, from the simplest amorphous rock to the highest crystalization? We say this is due to some chemical action, largely through heat; but what is heat? It is simply the manifestation of a force; not that heat is the force itself, any more than the power of speech is the force that works the brain and moulds expression. Speech is simply the manifestation of that force which is behind both speech and brain and unseen. So an unseen force is behind heat, the latter being simply the phenomenon, and not the power that prompts or propels it. Heat I do not regard as a link in the "correlation of *forces*;" but a link in the primary *manifestations* of force, correlated to each other, as light,

motion, electricity, magnetism, etc. These are all resolved or reduced to one primary force, which produces said primary correlative manifestations.

Spend an evening with Tyndall and watch his experiments in crystallization. As soon as the current (from a voltaic battery) began to pass, one wire became covered with bubbles, while from the other, foliage grew with the most extraordinary rapidity. The particles seemed to form in the liquid, to come into existence from nothing, and rush with violence to attach themselves in leaves and frond-like forms to the attractive wire. It was like being shown into the secrets of nature — like witnessing creation. The general appearance of the “tree” was fern-like and graceful. Tyndall says: “In the process of crystallization nature first reveals herself as a builder. Where do her operations stop? Does she continue by the play of the same forces to form the vegetable and afterward the animal? Whatever the answer to these questions may be, trust me that the notions of the coming generations regarding this mysterious thing which some have called ‘brute matter’ will be very different from those of the generations past.” Life in each kingdom is differently developed. In the animal kingdom growth of stature ceases at a certain age, while in the vegetable kingdom it continues through the individual existence of the plant. The former possesses the power to move from place to place at will, the latter is fixed to one spot, and derives its nourishment chiefly through the lower parts of its organism, while the sustenance of the animal kingdom is taken through the upper. The resulting processes of these developments are easily explained, save the first, in the cessation of growth of man or animals at a certain age; and why said physical growth does not continue through life, as with the plant, is not yet satisfactorily explained. All of these processes and developments, however, are simply the results of some unex-

plained force which propels and gives shape and form to matter, not only in the animal and vegetable kingdoms, but in the mineral kingdom, which manifests itself, though differently yet most distinctly, in varied crystallizations.

The differentiation in life is very marked in the development of our planet. To-day, in man, more than all others in the broad realms of nature, dwells the greatest and the widest manifestations of life. Like the beast, he enjoys the powers of locomotion, self-defence, etc., but, more than that, he enjoys an intellect, as varied as it is great, and as far beyond the beast as the latter is beyond the oyster, or the oyster beyond the lowest form or manifestation of animal life, the protoplasm. In the first the most recent planetary development, *man*, we find the broadest variety; in the beast its development is less marked; in the oyster the differentiation in life is reduced to a very narrow limit; in protoplasm, the base, or the lowest round in the ladder of animal life, the variety of manifestation is as small as is possible to imagine in this kingdom. In the vegetable kingdom differentiation is still less marked, for life is manifested only in reproduction and growth with changing forms, while in the mineral kingdom the variety of life's manifestations are reduced, not to its minimum development, but to the lowest or narrowest limit in matter as a solid; its manifestations though less apparent than in the higher kingdoms, is nevertheless to the investigator positive, for growth and change of form through crystallization is everywhere observed. Vegetation develops largely through the influence of heat; so does crystallization in the mineral kingdom develop largely through the same manifestation of force.

Dr. Carpenter, the English scientist, gives undue influence to the manifestations of heat. This element he considers is the vital force, the very life, that animates our being and all matter; but with like consistency he might

claim the same pre-eminence for oxygen, for without the presence of the latter, seed could never germinate, nor the egg develop into life. Another claims that electricity is the basis of life; but, be it heat or electricity that animates the vegetable and animal kingdoms, must we not claim that through both of them the mineral kingdom develops in growth and change of forms through crystallization; but, as previously stated, both heat and electricity are correlated manifestations of a force, not the force itself, that prompts the action; the latter we may call the vital element which animates the universe giving life to rocks through crystallization, and development to plants and animals through germination. To produce a good plant we must see that the soil contains those mineral properties which we know the plant upon analysis itself possesses, for the plant is simply a mineral or minerals reproduced or developed, or, in other words, metamorphosed into vegetable life.

In primeval times it is probable that when the soil became sufficiently pulverized, saturated with moisture and compounded with the gaseous elements washed down by the descending rain, the same force that develops crystallization — call it life-force — varied its manifestation and produced a germ, simple in its structure, a minute globular bag, a single cell, possibly microscopic. When coming in contact with that quickening element, oxygen, and the sun's heat and light, it expands, a new kingdom is born — the plant. The earliest plants are known to be very small, almost microscopic; a careless observer passes every day rocks apparently stained, or colored, which, upon close inspection, are found to be a low order of vegetation, belonging to the Cryptogams, or flowerless plants. Such were undoubtedly the appearance of the earliest vegetation. Having traced man to the rock, have we found the beginning beyond which there is no trace? Not yet.

The nebulæ hypothesis of the origin of our globe, and now the accepted theory throughout the civilized world, describes the earth as originating from a nebulæ cloud-like mass, in which the sun, planets, comets, ærolites and meteors were included, forming together one immense combined nebulæ, floating in space. When this vast nebulæ began the process of condensation separation from the central mass took place in the form of rings, the latter further condensed, broke up, and each ring gathered by laws of attraction the fragments and formed a globe, such as the earth and other planets. The earth at this period is supposed to have been some one thousand eight hundred times larger than at present, its dimensions in fact extending to the moon; but through laws of expenditure of heat, from a gaseous to a fiery liquid mass, and from the hot, molten mass to water and solid rocks, its condensation from its beginning as a planet to its present condition, and its development as shown in the variety of manifestations of life, is immense.

What is there that runs through this entire chain of the earth's development? What that caused the nebulæ to condense, especially one portion more than another? What caused the earth to separate in the form of a ring and then take the form of a globe? What caused it to possess two motions at once, the rotation upon its axis and its revolution around the sun? It is the same cause or force that enables man to run or think, the fish to swim, the seed to germinate, the tree to grow, the mineral to crystalize, fluid to solidify, or vapor to liquify; and that force must be the vital or spiritual force, the life that animated not only the earth in its primary conception upon its launch into existence as an individualized entity, unfolding itself in its varied life-manifestations through rocks, water, trees, beasts, man, etc., but the same force, or life, that animates the entire heavens, giving motion, light, heat, gravitation, all, to the vast bodies floating in space,

to all matter extending through the length and breadth of the mighty universe ; not forgetting that gravitation, motion, light, heat, etc., through which all nature apparently operates, are but the manifestations of this living, vital, propelling, spiritual force.

An atom is the lowest form or the smallest division of matter. All atoms of matter, says Papillon, are one and the same thing, but the different energies and forces combining them change their nature ; motion alone determines the variety and unity of matter ; but motion is as subordinate to force as speech is to thought. The materialist tells us that spirit, or life, is the result or product of matter ; that matter is first, and spirit, or life, follows it. If I am wrong in my assertion that a certain force or energy, call it life or spirit, runs from the primary conception of our planet through its gaseous and liquid state to the mineral, vegetable and animal kingdom, through the differentiation in its many manifestations, culminating in man ; if, I repeat, this statement is not practically or theoretically true, then I should have faith in the materialist, for if life or spirit was not made manifest upon our globe until the appearance of plants and animals some millions of years after the earth's formation, the conclusion is obvious that matter was all this time preparing to develop life or spirit (if spirit is the result or product of matter), which on the face of it is totally absurd—for the very fact of matter developing life or spirit, or if spirit or life is developed from matter in any form, is proof positive that some force acting behind or through matter was necessary to develop said life or spirit ; for development cannot take place in any shape unless some force exists to set it in motion, and that force can be nothing less than that life or spirit which pervades the universe.

Then, when the distinguished scientist, Papillon tells us, as before mentioned, that all atoms of matter are one

and the same thing, but the different energies and forces combining them change their nature and variety, we are led to the belief that matter in all its varied forms and conditions is wholly developed through the energies of life or spirit-forces. Having traced the life and composition of man to the great nebulae, from which our planet was born, or thrown off, is this the beginning, the primal base, or fount from which our lives and bodies evolved or sprang? Most assuredly not. What is the origin of the nebulae? One class of nebulae is found through powerful telescopes to consist of an innumerable quantity of stars, which through smaller lenses gave the appearance by their immense distances from us, of a cloudy, hazy mass. Another class to which the nebulae from which our earth separated belongs, is gaseous, comprising many of the properties that our globe contains to-day. What this nebulae originated from is still an open question. The universe is more or less filled with cosmical matter, from very small bodies to bodies of immense size, some of which are solid and others gaseous.

In the little space which our own solar system occupies, there are innumerable little bodies called meteors that are solid, and converted into gas when reaching our atmosphere; there are also comets of immense size, as light as gas, whose path is parabolic, passing into space and never returning to our system again. And the gaseous mass exploded or ejected from the sun to-day, if it travels with the velocity of five hundred miles per second — as is the case in some instances — it passes, says Proctor, beyond the control of the sun tangentially into space. Now, it is possible that these fragmentary, cosmical, gaseous masses collect and form a vast nebulae, from which worlds are born. Farther back than this it is impossible for man to trace that form of life and matter which composes his being; it passes here into the great unknown; and yet this life and matter is as anterior to the

nebulæ in some unexplained form, and as certain as its existence that we have traced since the nebulæ formation; hence the beginning or primal origin of man must remain as undiscovered as the origin of the universe with which it is identical.

Having reached the utmost limit of man's comprehension, let us look very briefly at the general principles upon which evolution or development is founded. What are the facts? If, as Herbert Spencer suggests, the nebulæ hypothesis so generally accepted is correct, what do we find? That the law of matter and all life is to develop from the simple to the complex, from the lower to the higher form.

Take the great nebulæ from which the earth sprang, with no fixed shape, floating through space a simple, homogeneous mass, as far as appearance indicated. No heterogeneous compilation was then manifest in this gaseous nebulæ mass. Could a being of our own manner born have ridden upon this floating billow and been told of the many planets, comets and meteors which this simple and unpretending cloud would give birth, his eyes would have protruded from their sockets and his brain electrified by this stupendous thought. The homogeneity throughout the mass became eventually disturbed; portions of it began to condense, concentrate, and become heavier.—Development has here commenced; the evolution from the simple to the complex is in progress; what was once homogeneous is now becoming heterogeneous; separation from the great nebulæ takes place; Mercury, Venus, Earth, Mars, the Asteroids, Jupiter, Saturn, Uranus and Neptune launch into space; and not only has this nebulæ, cloud-like mass developed these planets, all of which revolve upon their own axis and also revolve around the central mass, the sun, but some of them have developed smaller planets or satellites, which also perform a revolution around said primary planets; and again the hetero-

geniety developed by the nebulæ mass is further displayed by comets and meteors, which are as abundant as the fish of the sea.

The vast complexity which these simple, homogenous, nebulæ, cloud-like mass has evolved, as one dwells upon the grandeur and marvellous variety of the solar system, amazes the wisest of us; and when we come to consider that each one of these planetary bodies has passed, or will pass, through the same development and differentiation as our own earth, evolution from the lower to the higher, from the simple to the complex, seems positive. This is clearly manifested in the progress of our own planet. After our separation from the nebulæ mass the globe continued cooling and condensing until it passed into a liquid state, differentiation developed, heavy metals began to manifest their individuality by solidifying; gold, silver, lead, mercury, copper, etc., have separated; silicon, aluminum, calcium, magnesium, sodium, potassium, and many other bases, have solidified and are patiently waiting the fall of the condensing acids, sulphuric, carbonic, chloridic, chloric, nitric, phosphoric, etc., to unite with them in the formation of rocks in their numerous varieties. The simple, homogeneous, gaseous globe is now unfolding itself and becoming more heterogeneous, or more and more complex. Like an ordinary garden-seed, which appears one simple mass throughout and apparently homogeneous, and yet, viewed through a microscope, its future development and heterogeneous and complex structure is observed, as the plumule, or trunk, and radicle, or root, with branches and leaves, are all snugly folded up in the simple covering, and only wait germination to unfold itself, expand, and develop into a plant. So with the chrysalis; it is apparently a lump of matter encased, simple and homogeneous, and to all appearance dead, inanimate; but by the aid of a good lens the future butterfly is discovered through the covering, with its body and wings

snugly packed up, the antennæ, or feelers, by the side of the legs and tongue between the latter, all closely packed, waiting the unfolding, or development, into the winged-fairy of the air.

In the caterpillar the future butterfly is sometimes seen closely cramped up within, and must pass through two metamorphoses ere its simple, homogeneous mass reaches the complex, heterogeneous form and structure of the butterfly. So with the globe; it had simply to unfold itself and develop from time to time new forms and varieties, with constantly wider differentiations, and become more and more complex and heterogeneous. The vegetable kingdom developed, observe the wonderful variety into which this kingdom has branched or divided. Already there have been discovered some three thousand separate species divided into orders, families and genera, to say nothing of the untold species yet undiscovered. One has but to stand upon the threshold of the very interesting science of botany and peep into the herbarium of nature to fully appreciate the beauty in the wonderful variety of plants with which our planet is decked. A further unfolding of the earth is made in the development of the animal kingdom. How wide its differentiation from the sponges to man, from the oyster to the highest type of animal life! Baron Cuvier describes in his great work many hundred species moving over the globe; and when we examine these species, and find each species subdivided again and again into numberless varieties, as in the dog, for example, the mastiff, shepherd, Newfoundland, etc., etc., also the horse with its varieties, our wonderment is increased. But when we again consider that throughout the entire living mass, and all matter, upon the globe, there are no two individuals or objects alike, we are still more amazed at the wonderful advance from the lower to the higher, the simple to the complex, from the nebulæ, homogeneous, gaseous mass of our planet in its infancy, to

the almost incomprehensible wide diversity or differentiation in life or matter to-day, culminating in man, the latest and most complex or complicated form in all its aspects, that our planet has yet produced.

In tracing man from the earliest development of the globe we found that some force, call it life or spirit, behind the correlated manifestations of force, heat, light, motion, electricity, etc., gave the impulse and caused the development of our planet in its varied manifestations, heretofore briefly described. The question now arises whether this life-force or spirit manifested in different bodies is sufficiently individualized to enable it to preserve its identity, as in man, throughout eternity. Or, in other words, if better understood, will Lysander S. Richards live, and his individuality continue forever and ever?

The antecedents or antiquity of man can be traced with some show of certainty through a chain of solid facts, but when we approach the question of the end of man, or his life beyond the grave, the facts presented to us are subjective, or more or less speculative. Yet no one aside from the materialist will, I presume, attempt to deny that the life or spirit principle developing man and all beings or things upon our planet continues through all time, without end. But in what form it continues, whether individualized in one person or thing, as upon the earth, an individual entity, a spiritual body dispossessed of matter, or whether it enters or is swallowed up in a universal life or spirit-mass pervading the universe, is the vital question of the hour. Advocates of the latter notion tell us that as a drop of water falls into the ocean, mingles and is lost in a great liquid mass, its individuality and identity ceasing, so does life or spirit departing from the body pass into the great universal life or spirit mass, and its individuality is forever lost. Let us see if this illustration holds good.

Water is made up of two elements, oxygen and hydro-

gen, and the smallest particle into which a drop can be divided is a molecule. Picture in the mind the smallest particle of water imaginable, and divided into a million of times, and the particle is not yet reduced to a molecule. Prof. Maxwell in substance says: "The size of a hydrogen molecule is such that if two million would stand in a row they would occupy a millimetre, and a million million million of them would weigh but four or five grammes. The molecules are conformed to a constant type with a precision which is not to be found in the sensible properties of the bodies which they constitute. In the first place, the mass of each individual molecule and all its other properties are absolutely unalterable. In the second place, the properties of all molecules of the same kind are absolutely identical. Oxygen we obtain from rocks, air, water, fluids, and very many different compounds, and also from rocks of all geological ages, from the Tertiary to the Silurian or the Azoic; and if through this vast extent of time, millions upon millions of years, any change was effected in its properties the specimens would manifest it. Hydrogen is procured from coal, water, etc. Two litres of any specimen of hydrogen will combine with one litre precisely of any specimen of oxygen, and will form two litres of the vapor of water. If by lying in rocks, through all the geological epochs of the past, passing through the volcanic and heat changes to which the rock is subject, or in space, dashing along as comets and meteors of which it is part and parcel, if any change or modification in the molecules had occurred, these relations of oxygen and hydrogen above mentioned, would no longer exist; but the same proportion of combination between these two elements exist to-day as millions of years ago, showing that the individuality or identity of the molecule is preserved.

"The spectroscopist finds through the spectroscope

that the molecules of hydrogen are the same not only in the sun, 92,500,000 miles away, but in the fixed stars, Arcturus, Sirius, Aldebaran, etc., trillions of miles distant. The molecule is indestructible; it preserves its identity through all time. Each molecule throughout the universe possesses the same size and form. A molecule of iron, or aught else, is the same in the dog-star as on the earth, preserving its individuality; it cannot grow or decay; the molecule is incapable of generation or destruction. Though planets may be destroyed and new systems develop, the molecules remain unchanged, unbroken and unworn, the same in size, in weight and shape." Each molecule is as much in a world by itself as each individual man; and as much space exists between each molecule, in which the forces can move them about in proportion to their size, as between bees in a swarm; consequently if we analyze a drop of water, or, rather, could we reduce it to its minimum or smallest size, a molecule, we should find that, instead of its losing its identity and becoming lost in the great ocean mass, it preserves its individuality and moves about in its own little orbit. The unseen world is comparatively as great and wonderful upon our planet as beyond, as the microscope long ago revealed.

Now, if the lowest condition to which matter can be reduced, the atom or the molecule (the former being the smallest division of a single element and the latter the minutest division of a compound) preserves its individuality or identity under all conditions and through all time, and also pervades all space, whether in the solid, liquid, or gaseous form, is it any less probable that the universal life or spirit-force pervading the universe, divided and dwelling in innumerable individual forms, will preserve its identity through whatever changes the mass of matter with which it is connected may pass through? To be sure, the material body of a man dies, the form is

not preserved or individualized, but the atoms or molecules of which it is made up remain the same, retaining their constant individual form and shape; and the life or spirit which builds them up and holds them together in the form of man, when it loosens its hold and escapes, can it be any less individualized than the atoms or molecules which it partially controls? An army, for example, is made up of individuals; they move collectively as one body. Take the "army of the Potomac;" they moved in one solid phalanx, united in one single purpose and imbued with one and the same spirit of love and defence of their country. At the close of the war this body or army decomposes, so to speak, falls to pieces, or scatters into its original individual elements of men; as they return to their respective homes the army as a body is no more, but the spirit that moved them through the fields of blood in the defence of their native land still lives, and will continue to live, as an individual part of the nation's struggle for existence.

The life or spirit force that moves our being cannot be seen any more than can heat or electricity; we can only see or feel its effects; if it was material—something that we could feel, see, smell, taste or hear—the evidence would be positive and beyond question; but as we cannot taste, smell, see, hear or handle it, as our experiences and observations are so entirely confined to matter, it is not surprising that we are totally unable to comprehend it through our material senses, for these are the only channels through which we can arrive at positive and substantial conclusion; hence the question of *the end of man* must always remain more or less unsettled while spirit and matter continue two distinct elements. We know, however, as Mr. Moody suggests, that mind or spirit in many instances works independently of matter. The material body of man changes, or wastes away, the physiologist tells us, once in seven years; not one particle of

his body, in any form, remains at the end of that time. The change is very gradual, the waste of the entire body is constant; and it is to supply this great waste that we are obliged to eat, and a new body is constantly and as gradually filling the place of the old as the latter is wearing and wasting away. Like the petrifying process of wood — a strip of it lies in a limestone region, the wood slowly wastes away, and as rapidly as a particle, an infinitesimal particle, drops, lime works in, hardens and fills the place, and thus as particle after particle of the wood is wasting, new matter as gradually fills in, and, so slow is the process, the form of the fibers and tissues of the wood is preserved, as the form of a scar upon a man's body is preserved, through the same slow process; not a particle of the strip of wood remains; it is petrified, or, the entire waste of the wood is substituted by limestone.

Now the fact is significant that, as every molecule or particle of the body wastes or returns to the earth in seven years, why, if the mind or spirit is not entirely independent of the body, and does not preserve its individuality or identity apart from matter, does not consciousness or memory, which is part and parcel of the mind, waste away with the body in seven years? But, on the contrary, the octogenarian is more conscious of events that occurred seventy years ago, or in the days of his childhood — can remember them with greater ease — than events that occurred within the space of seven years of his advanced age. Then, again, we have testimonies from very responsible persons scattered over the world, that spirits, individual spirits, once inhabiting earth bodies, have manifested in many ways their individual existence beyond the grave. Moses and Elias, departed spirits, once inhabiting the earth, appeared, it is said, to Peter, and Thomas when present on the mount with Jesus. And the argument is presented that the same law that would allow the return of a spirit two thousand years ago

